



Long term MRI surveillance of pituitary macroadenomas: gadolinium is not obligatory

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To the Editor,

As a pituitary neuroradiologist, I read with great interest the study ‘*Physicians’ awareness of gadolinium retention and MRI timing practices in the longitudinal management of pituitary tumors: a “Pituitary Society” survey*’ by Lisa B. Nachtingall et al. published online 19 November 2018 [1].

I note that neuroradiologists were not invited to participate in this survey. This is a pity as, for more than 15 years, it has been quite common practice to follow most pituitary adenomas—particularly non-functioning pituitary adenomas (NFPA)—using MRI *without gadolinium injection*. This is

true for both operated and non-operated NFPA. High resolution coronal T2W MRI images allow for the identification of NFPA remnants and invasion of the cavernous sinus, while also permitting the tracking of potential growth. This is in addition, of course, to delineating the location and size of the normal pituitary gland (Fig. 1). Apart the potential risk, albeit low, of repeated gadolinium injections, as presented by Nachtingall et al. the endocrine and neurosurgical communities should be aware that gadolinium injection is not absolutely necessary for the successful follow up of most pituitary macroadenomas [2].

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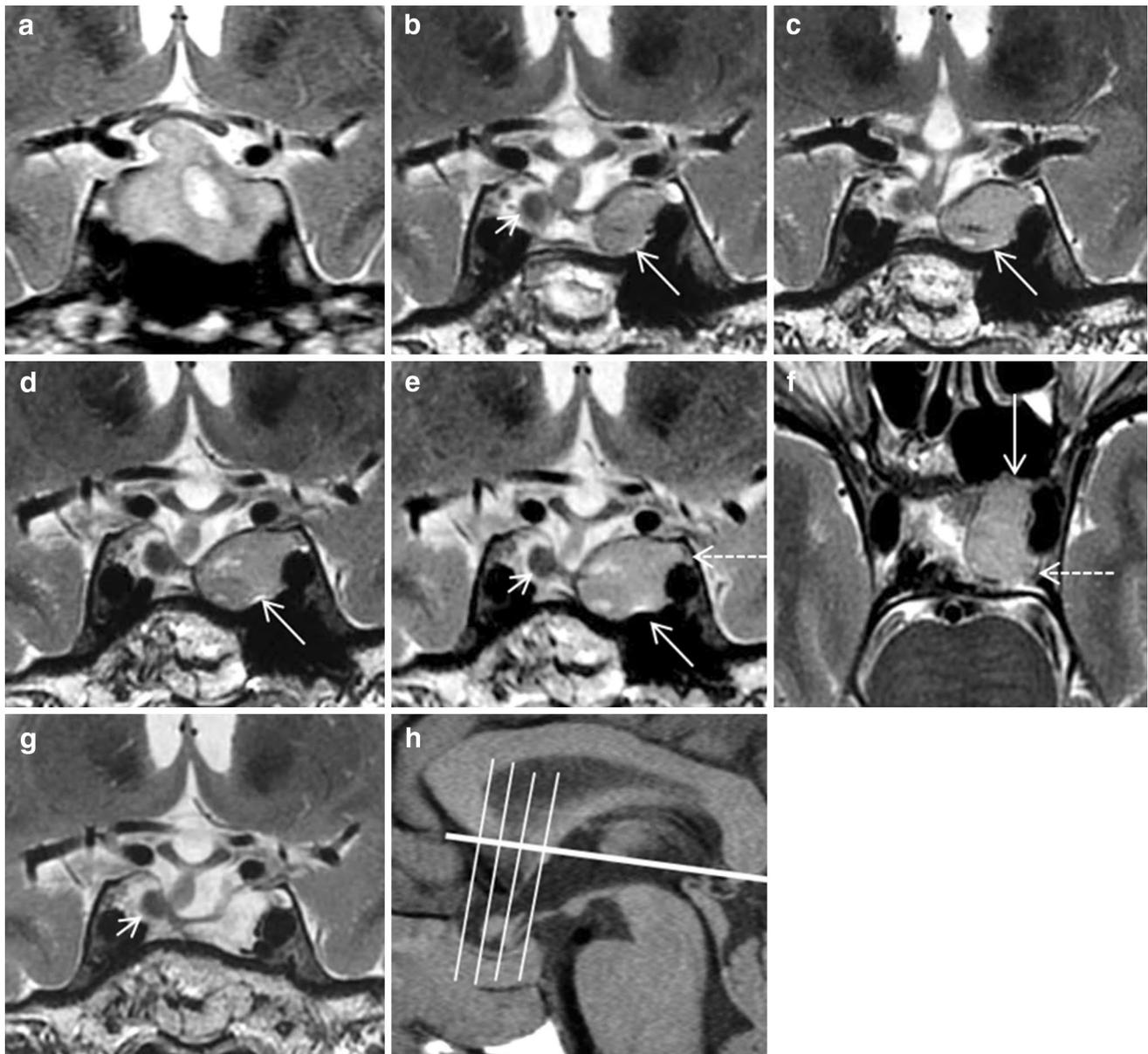


Fig. 1 Gonadotrophic pituitary adenoma in a 51 year-old-man revealed by visual field defect. Coronal T2W images before surgery (**a**), 1 (**b**), 3 (**c**), 5 (**d**) and 7 years (**e**) after transsphenoidal surgery. Progressive enlargement of an adenoma remnant (long arrow). Normal pituitary gland remnant (short arrow). Axial T2W image **f** demonstrates an intact dural medial wall of cavernous sinus and eliminates cavernous sinus invasion (dotted arrow). A second surgery is performed.

13 years after first pituitary operation, coronal T2W image (**g**) does not show any tumoral remnant. All coronal T2W images have been obtained with the same projection to facilitate comparison, i.e. perpendicularly to a line tangent to the inferior border of corpus callosum (**h**). The patient has been followed up during 13 years without the use of gadolinium

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Research involving human and animal participants This article does not contain any studies with human participants performed by the author.

Compliance with ethical standards

Conflict of interest The author declares that he has no conflict of interest.

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2. Bonneville JF (2018) A plea for the T2W MR sequence for pituitary imaging. *Pituitary*. <https://doi.org/10.1007/s11102-018-0928-9>